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## ORIGINAL COMMUNICATIONS.

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*Remarks on Diffusion as a Therapeutic resource.* By CHARLES B. VOIGHT, M. D.

The ensuing observations are respectfully proposed to attract a more special attention to the principle of diffusion in the treatment of disease than it appears in general to command. The topic, it is conceded, is not new; and the fact affords encouragement in the prosecution of the present design. Ten years ago, when I was a member of the medical class in the University of Pennsylvania, it was forcibly inculcated from the chair of the Practice. With the writer it has become a favourite practical principle. I believe I can safely affirm that the whole tenor of my medical observations to the present time supplies me with accumulated evidence of its safety, utility, and value, when applied with the ordinary care of professional discrimination and judgment. As estimated by the writer, the merits of the subject would authorize an extended and formal essay, but for the sake of brevity and convenience, it is submitted in the form of a series of grouped and cursory observations.

I. By diffusion, I mean a centrifugal determination, or a general capillary efflux in a direction from the axis towards the periphery of the system. Its existence in a state of health is apparent and appreciable in the fulness, plumpness, succulency, and healthy hue and temperature of the body. By the pallor, the contracted and shrunken state of the lineaments, and coldness of surface, it is broadly distinguished from the centripetal concentrations of congestion. If the latter species of action be admitted, and it is universally recognized, the former cannot be denied. It is the object which is designed and accomplished in the cure of congestion. The one kind of action is the inversion of, and implies, the other. They are mutually correlative. It is a healthy action. All the indications and attributes of health are attendant upon it. It differs from fever as a normal and regular medium of action differs from a morbid, perverted, and complicated excess of action. In a therapeutic point of view, it mainly contemplates and consists in the establishment of a just relation between the blood and the capillary section of the circulatory apparatus; and so long as this relation is maintained the occurrence of vascular disease is, I believe, impossible.

In irritation, inflammation, and congestion, normal or physiological diffusion is subverted, and a new condition introduced. An undue proportion of blood is precipitated upon a particular part or parts, organs or tissues, and as no compensating supply is simultane-

ously acquired, it is obvious that the entire portion of the capillary system which, is unincorporated in the disease, is deprived of its normal supply of blood to a degree commensurate with the morbid excess of the local accumulation. *Ubi irritatio ibi affluxus*,—an aphorism no less true at the present date than when first announced, and an example of the “perennity” of natural science. Now, diffusion meditates the restoration of the normal condition, by effecting an equal distribution of the blood over the system at large; detracting from local excess by instituting an equilibrium or normal relation of supply in the entire capillary system.

Is it not a healthy diffusion which supports a vigorous nutrition, and by which fattening or corpulency naturally takes place? If so, diffusion is a physiological law. Is not this the principle which has been set at work when a chronic irritation has been cured by a sea voyage or a country residence? Is it not to the same principle that, in part at least, may be referred the *embonpoint* generally attendant upon the habitual use of opium?—an article which, besides other properties, exerts a diffusible action in a high degree. And may it not be asserted that the alterative power of mercury also largely resides in its diffusibility?

II. However indispensable blood-letting may be in the treatment of disease, it is very certain that it seldom of itself, or unaided by other means, perfects the cure. Medicinal agents are generally resorted to and required for the eradication of disease and the re-establishment of health. The mere abstraction of blood cannot be relied upon in practice; and it is equally well known that urged beyond limits which even in the robust are soon arrived at, it is often not only abortive as respects the cure, but sometimes hazardous, or absolutely pernicious. Nor can the antiphlogistic system in its lengthened detail, or the reducing process, though its claims to an appropriate place in the category of medical resources cannot be impugned, be depended upon as the ultimate and essential curative procedure. There are necessary limits to its application which, if transgressed, compromise the life of the patient, without curing the disease. Disease also occurs under circumstances where a recourse to depletion and reduction, by the perils it would engender, is inadmissible. Such is the case when it happens in the exhausted, or extremely infirm. Depletion here only rivets the local disease; and should the part affected involve a capital function, hurries its career to a fatal issue. The inherent forces of the general capillary system, by which diffusion and derivation are secured, and which resist and countervail centripetal revulsion, once exhausted, an overwhelming reflux falls upon the suffering organ and annihilates the play of the functions.

But local disease cannot be resolved without the eventual occurrence, whether artificially or spontaneously induced, of diffusion or

\* Its collateral property of blunting sensibility probably also conduces to the same end.



an equalization of capillary action. This is the radical and essential curative process. To it all other therapeutic operations are tributary or adjuvant. Thus, general excitement and vigor are diminished because they administer to local excitement: and local excitement is reduced that the organic force, or irritability of the capillary system at large, no longer overpowered by local action, may restore a salutary diffusion.\* Diffusion, therefore, in vascular disease, is the ultimatum of medical effort. It is the essential and indispensable condition of its cure; and hence, in the majority of therapeutic problems, demands of the physician a paramount consideration.

III. Principles in general, though extensively and beneficially available in the production and promotion of good, cannot, when brought to light, spontaneously apply themselves for the accomplishment of these objects; nor do they disclose, of themselves, the rules to be observed in order to ensure their apposite and successful employment. To human effort, enterprize, ingenuity, and judgment, in their middle station between the principle, on the one hand, and the applications of which it is susceptible, on the other, is allotted the task of defining the one and achievng the other.

How can the principle of diffusion be successfully converted to the cure of disease? What conditions does its application presuppose and require, that, when brought to act upon the system, its operation may do good and not harm? Towards the elucidation of these points, a few brief and desultory remarks occur, which may at least contribute to the end in view. Extended medical erudition, conjoined with the most ample and matured experience, would alone suffice to do full justice to this branch of the subject.

As previously intimated, the writer believes that an application of the principle in question spontaneously offers itself to notice when a chronic disease or local irritation,—bronchial or gastro-enteric, for example,—is cured by a change from a city to a country residence. The case is a familiar one, and the fact it conveys, the occurrence of the cure, of indisputable authenticity. What is the character of the operations by which this revolution in the economy is effected? The solution of this question will aid the present investigation.

Simultaneously with the subsidence of the local irritation, which is commonly of slow and gradual progression,—a notable feature of the cure,—four obvious results of the restorative causes at work upon the system are plainly evinced: these are, 1. An acquisition of vigor. 2. Increased deposition upon the periphery. 3. An improved complexion and temperature of the surface. 4. A restoration of some one or more of the secretions previously perverted, obstructed, or annulled; particularly, of perspiration. Now all of the three results last specified are referrible to, and denote, an alteration in the capillary actions of the individual; and an accession of force to the impulse of peripheral determination. Universal diffusion, which is a capillary phenomenon, has been set up in the place of centripetal or local concentration; and

\* Principles of Medicine. By S. Jackson, M. D. Philadelphia.

in the perfection of the cure, finally overcomes and eradicates it. The disease is resolved by the institution of a permanent "systemic" capillary derivation,—a collateral and most propitious and salutary result of the therapeutic principle under vindication.

The foregoing exposition, which is deemed to be sound, natural, and philosophical, suggests some practical considerations to direct and regulate the application of the principle of diffusion. These are complex, and refer alike to the qualities of the agent to be selected for its accomplishment, and the condition of the patient upon whom diffusion is designed to be impressed.

The medicine must be adapted by virtue of inherent affinity, equally and uniformly to augment capillary irritability as an integral and vital property of an entire and all-pervading tissue of the body; and to facilitate, harmonize, and promote the functions of secretion and exhalation. A stimulant, of course, covers the first indication, or the augmentation of action which is to be induced; but as some stimulants, in particular cases, will seriously interfere with the secretions, and would therefore violate some of the conditions which are essential to be observed in an accurate imitation of the natural process of cure, as exhibited in the precedent which has been quoted above, the article to be employed must necessarily be characterized by a suitable congruity or correspondence of action with the general flux of the secretions; or, what imports the same thing, it should be devoid of all tendency to impede them.

The employment of a stimulant, distinctively viewed as such, also furnishes some suggestions of a similar purport. These relate to the condition of the patient on the one hand; and on the other, to the collateral properties which most stimulants possess, in common with medicines in general, of exerting other actions upon the system independently and irrespective of the action desired.

In reference to the collateral properties alluded to, it may be observed that, in consequence of the complications which are liable to accompany disease, it is possible sometimes to convert them to useful purposes; but the contrary frequently obtains, and that in the production of diffusion they should be sedulously guarded against. In a suitable case for its exhibition as a diffusible, camphor might be advantageously employed in reference to its antispasmodic qualities, to tranquilize nervous turbulency, in the treatment of a case of pulmonary congestion; but should a meningeal or cerebral excitement or irritation also co-exist, the operation of its antispasmodic qualities would be wholly inadmissible. Instead of tranquilizing, it would exalt cerebral organic action, and, in the place of diffusing the blood, it would throw a preponderance of it into the capillaries of the brain. The consequences need not be detailed. Here is a conspicuous example of a collateral operation of a diffusible, and it conveys a relevant and practical maxim of extensive analogical importance.

As nearly allied to the foregoing topic, it may be observed that the same tenor of remark holds equally good in relation to the production of expectoration in many instances of bronchial irritation. When general capillary vigor is unimpaired, it may, perhaps, be advan-



tageously promoted; but, as a general rule, at least in chronic bronchitis, I believe it to be a superfluous and prejudicial practice; and if diffusion be the fundamental condition of the cure of local disease, as argued in this dissertation, the active promotion of expectoration in the case supposed is unphilosophical. An active expectorant (some are passive in their operation) augments action, not upon or in a direction towards the periphery, but conversely near to and towards the axis of the system, which is an abnormal or morbid course of action. They should therefore be used in chronic bronchitis with much reserve, and when much general capillary inactivity marks the case, those of the active kind, or such as stimulate the bronchial vessels, should be entirely proscribed. These are absolute local stimuli, and tend to confirm the disease by inverting and contravening the recuperative action of diffusion, and aggravating excitement in the identical vessels already over excited as the special attribute of their pathological condition. An artificial augmentation of local vascular action is incompatible with the principle of diffusion.

The condition of the patient, in relation to the employment of stimuli, the topic next to be disposed of, may be sufficiently considered for the present purpose by contemplating it under the two-fold and opposite aspect of sthenic fever on the one hand, and general capillary feebleness on the other. The habitudes of the other states of system, in their various gradations between these extremes, will be sufficiently referred to incidentally, to be appreciated or perceived without a more detailed and special discussion. To examine them particularly is necessarily precluded by a due regard to reasonable limitations.

When sthenic febrile excitement complicates a local excitement, as commonly happens in individuals of considerable constitutional vigour, an equalization of the circulation cannot of course be attempted by the application of stimuli. Local excitement seldom or never abates prior to the reduction of general vigour and high excitement; on the contrary, they contribute to it. The first step universally assumed, under such circumstances, is depletion or reduction by either direct or indirect means. General excitement being first overcome, exaggerated topical action is quelled, and comes more easily under control. This is next reduced, in order to bring the forces at work in the diseased capillaries to a level with those which naturally reside in the general capillaries. This fully accomplished, resolution, in sound and tractable constitutions, will often ensue and effect the cure. But should they fail at this point to compass this salutary alteration in the circulation, a diffusible, peculiarly adjusted to the distinctive features of the condition in question, offers itself as the appropriate indication of cure; the object of which is to determine the predominance of action to the side of the capillaries at large. When, therefore, the active or direct application of the principle of diffusion in the treatment of diseases appertaining to the present condition is called for, the provision to be observed to secure its successful opera-

tion is a preliminary and suitable recourse to antiphlogistic measures.

The opposite of the preceding condition, or constitutional feebleness conjoined with general capillary inefficiency of action, offers an apposite case for the immediate appeal to the capillary stimulant. This is the condition which embraces the extensive array of chronic disease. The cases it presents are usually intractable to the antiphlogistic system of treatment. Reduction, it is true, by diminishing the topical excitement, may, and often will, afford some momentary alleviation; but as it fails to introduce an adequate diffusion, the relief is only temporary and delusive. But this is not all. The general capillaries, by participating in the loss of tone which reducing measures necessarily inflict, sustain a positive injury. They are still farther removed by it from the capacity of instituting a recuperative derivation. The local action marches onward to disorganization, and ultimately eventuates in a fatal lesion. Patients of this description, or such as are presented by the condition under review, furnish the examples of the spontaneous cures which are so frequently accomplished by travelling, or a change of residence. Diffusion, benignly and seasonably obtained in these cases, promptly and conspicuously displays a salutary amelioration. A new direction is imparted by it to the current of the circulation. The local raptus is subverted and merged in the general sanguine dispersion, which needs only a proper and steady support to revolutionize the system and reinstate the order of health.

The foregoing observations upon the application of this principle, may be summarily exhibited in the following recapitulation:

1. The diffusible agents to be employed should be characterized by an entire compatibility with the performance of the secretions.
2. The medicine in most cases should be an exclusively capillary stimulant; that is, totally destitute of collateral therapeutic qualities.
3. Should collateral actions be admissible and desirable, they should be subordinate to, and co-operate with, the main action of diffusion.
4. An augmentation of a central morbid action, or local raptus, whether incidentally or primarily induced, is a violation of the law of diffusion, and morbid.
5. General vigour and high febrile excitement impose the observance of a preliminary antiphlogistic practice, in order to equalize the local with the general capillary forces.
6. The prevalence of general capillary inertion, and the absence of constitutional activity and vigour, demand, in general, an immediate appeal to the principle of diffusion.
7. When constitutional feebleness and inactivity, and general capillary languor unite in the same case, depletion or reduction is detrimental. It exhausts the capillary forces of the system at large, whereby local excess of action is overcome.

A few remarks in reference to diffusible agents, will complete



the scope of the present article. This property, as is well known, appertains to an extensive range of medicines. The arterial, nervous, and narcotic stimuli, and some of the diaphoretics, exert it in a marked degree, and consequently may be employed in reference to it; but, as pointedly indicated in a former place, the selection of the agent for clinical purposes must be guarded by a studious attention to collateral properties. These, with the most of them, are numerous and diversified; and hence arises a difficulty in the establishment of a salutary diffusion. As one step in the way of overcoming this impediment, and facilitating the application of the principle, the following combinations are offered as specimens of capillary stimulants.

When the case is distinguished by constitutional feebleness and general capillary languor, the carbonate of ammonia, in union with the gum guaiacum, will, in general, fully answer expectation. They are conveniently administered in mucilage, in the proportion of two scruples of each of the former articles, to four ounces of the latter. The dose a dessert spoonful every three or four hours. To meet *special* indications, I have sometimes improved this medicine by the addition of small quantities of the Pulv. Ipecac., or Hoffman's Anodyne.

Should the carbonate of ammonia be contra-indicated by a considerable degree of constitutional activity and a febrile tendency, it may be replaced by the nitrate of potassa, or the muriate of ammonia; but as these articles are powerfully antiphlogistic or reducing, and therefore tend to depress general capillary power, much circumspection is required in the adjustment of their relative proportions. Constitutional and local activity should be restrained by them, while diffusion is insured by an adequate impression of the guaiacum.

The subject is submitted to professional attention. Should the remarks which it has suggested impart to it such favour of acceptance as will obtain for it clinical examination or trial, the object of the writer will be gained. Little more has been attempted than a mere statement and general exposition of it. Beyond this it is commended to farther investigation. Familiar and habitual reference to it in practice has inspired a steady conviction of its value, and justifies and encourages the belief that a similar result will attend its further application.

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*Letter in relation to the case narrated by Dr. RUSCHENBERGER, in the second number of this journal.*

To the Editors of the Medical Examiner.

GENTLEMEN,—In the second number of your periodical, which I received on the 22d inst., is the report of a case of "Deformed Leg from unsuccessfully treated Fracture," on which I wish to offer a few remarks; for I am the surgeon by whom it was the misfortune of Lieut. M—— to be treated. The report of this case leads to the conclusion, that there had been mismanagement on the part of the sur-

geon; but whether there was or not, yourself and your readers will be better able to judge after being informed of all the particulars of the case; and you will also be able to judge how far the term "unsuccessfully treated" is applicable to it. Every surgeon who has had many fractures to treat, will readily assent to this truth, that there are cases of fracture of the leg which do not deserve to be denominated unsuccessfully treated, though there may be a shortening of half an inch—which is the only deformity that existed in the case of Lieut. M——. With the best treatment that fractures can receive on shore, it happens, not unfrequently, that in bad fractures of the leg there remains as much deformity, at least, as in the case of Lieut. M——.

This was a very bad fracture; oblique, and not transverse, as stated in the report. The soft parts were much lacerated, though the bones did not quite protrude through the skin; and there was a very near approach to gangrene. The sea was rough at the time, as is truly stated in the report, and continued so most of the time, till the ship reached Mahon, on the 4th of January. Those who have treated fractures at sea know the difficulty, even in the most favourable circumstances, in preventing motion at the fracture. In the case of Lieut. M—— there was a nervous susceptibility, and a consequent intolerance of pain, which rendered the management of it much more difficult than it would otherwise have been. No extension could be borne; and the apparatus had to be very frequently readjusted, in order to relieve him from pain. If it be said that a better apparatus might have been employed, I reply, that none could have been used which would wholly have relieved the patient from pain, and which would not consequently have required frequent alteration.

On arriving at Mahon, it became absolutely necessary to take Lieut. M—— on shore, as he could not endure confinement on the orlop-deck any longer. Every precaution was used that I could devise, to have the removal effected without injury to the patient; but it was attended with pain, and the progress of cure was no doubt retarded by it. While on shore efforts were made to produce extension, but they could not be borne. I told Lieut. M——, from the beginning, that there would be some shortening of the limb; and the result was certainly not worse than any one might expect in such a case as his was, taking every thing into consideration. He was never urged by me to use the limb, until I supposed the union was sufficiently firm to warrant it.

Such, gentlemen, are some of the most essential particulars which have been omitted in the report of Lieut. M.'s case, but which ought to be known, in order that it may be judged of correctly. I therefore hope that this communication may be inserted in your Examiner.

I am, respectfully, gentlemen,

Your obed. serv't,

B. TICKNOR.

*U. S. Naval Hospital, Brooklyn, Jan. 25th, 1842.*



## THE MEDICAL EXAMINER.

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PHILADELPHIA, FEBRUARY 5, 1842.  
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## MISCELLANEOUS INTELLIGENCE.

*Obituary.*—Died, at London, on the 2d December, aged sixty-five years, Dr. BIRKBECK, founder of the Mechanics' Institutions for gratuitous lectures. At London, on the 4th December, Dr. DANIEL D. DAVIS, aged sixty-nine years, lately professor of obstetric medicine in University College, London, and author of many standard medical works; Dr. D. was physician-accoucheur to the Duchess of Kent, at the birth of Queen Victoria.

*Ohio Lunatic Asylum.*—The third annual report of this institution represents it in excellent condition. Reports are given of many interesting cases of recovery from insanity, under the treatment of Dr. William M. Awl, superintendent of the institution, and his assistant, Dr. Samuel M. Smith.

*Medical Institution of Yale College.*—The degree of doctor in medicine has recently been conferred upon nineteen students of this institution.

*Geneva Medical College.*—This institution appears to be in an exceedingly prosperous state. The present course of lectures is attended by one hundred and fifty-six students and forty-eight physicians.

*Introductory Lecture by Professor Wright, of the Medical College of Ohio.*—A very clever production, containing much sound practical advice to the young practitioner.

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FOREIGN.  
~~~~~*Clinical Remarks by Dr. MARSHALL HALL, on the Use of Setons.*

There is no doubt that the seton is a most valuable remedy; at the same time, it is a most disagreeable one, and few patients submit to it willingly. The circumstances which render it advisable are, we believe, a chronic disease in an organ more or less inflammatory, and generally attended with a purulent or other discharge. In such

cases, the seton is one of the most powerful and, of course, permanent revulsives we possess. But there is one condition which is almost essential for its favourable action, that is, that the general health and state of the individual should be maintained; hence we rarely prescribe setons, except in conjunction with tonics, and a more or less nourishing diet. The alterative tonics are the best, such as the preparations of iodine, sarsaparilla, &c.

The careless use of setons is, however, productive of so much mischief, that we are not nearly so much accustomed to use them as many of our brother practitioners. When the patient is losing his strength and flesh; when he is of a nervous, excitable temperament, setons are almost always mischievous; and even if the conditions of the patient be not, in all respects, such as to forbid the use of the seton, still, they are sometimes used, absurdly enough, for mere nervous functional disturbances, often depending on disorders of a neuralgic nature, which require a treatment totally different from that of setons. In tuberculous diseases setons are evidently injurious, if the general health of the patient fail; and in the mere lesions, such as cicatrices of the brain, which remain after apoplexy, they are absurd, unless a positive action continues in the cerebral substance: if such should be the case, setons are often of service.—[*Eds. Ex.*]

Many years ago, I was consulted by Mr. Doubleday, of Blackfriars Road, in the case of a young married lady who had suffered from peritonitis after her first accouchment.

This peritonitis appeared to be confined to the pelvic region. Its acute character had been subdued, but tenderness, with tumidity, and difficulty in voiding the bladder and rectum remained. I made a careful examination. A distinct hardness was felt under the pubes, extending to one side, I think the left. On examination per vaginam and per rectum, a similar hardness was found occupying the lower part of the pelvis. I imagined this hardness to consist in coagulable lymph, effused from the inflamed peritoneal surfaces of the pelvis, producing the symptoms by its pressure on the neck of the bladder and on the rectum.

We strictly regulated the diet and the intestines, and inserted an ample seton over the induration. Slowly and gradually that induration, with its attendant symptoms, became diminished, and eventually disappeared.

Several years after this, I was consulted in the case of the sister-in-law of this patient, under very nearly similar circumstances. The same remedy was followed by the same happy result.

A year ago I was consulted by Mr. Burford, in the case of a gentleman of sixty, who had become affected with pain, tenderness, and tumidity of the abdomen. On a careful examination, a distinct hard-



ness was felt in the midst of the general tumidity, occupying the region of the caput cœcum coli. We regulated the diet and the bowels, administered mercury, and inserted an ample seton. The mouth became affected, and the seton discharged copiously: the hardness and the other symptoms gradually, but at length entirely disappeared.

A similar case occurred a year ago, in the person of a gentleman of forty, a patient of Mr. Squibb, in Orchard street. A strict regimen was enjoined, the bowels regulated, and an ample seton was inserted. The induration, which in this case occupied the space between the false ribs and the ilium, on the left side, gradually disappeared.

Two years ago I was consulted by Mr. P——, a barrister, affected with pneumonia of the middle and upper lobes of the right lung. A seton was inserted, and Mr. P—— went to Maderia. On his return, the physical signs and the symptoms of the pneumonia had disappeared.

I have still more recently treated a case of pneumonia of the upper portion of the right lung, in consultation with Mr. Beane of Peckham. A seton was inserted, and in six weeks a most decided amendment in the physical signs, the symptoms, and the general health occurred. Since that period the patient has continued to improve, and now no dulness on percussion, or other signs of disease, is perceptible.

In a variety of cases of acute or chronic, local or limited internal inflammation, I have had recourse to the seton, and uniformly with the most marked success; so that, I think, we may look upon the remedy as almost specific in such cases. It is unnecessary to enumerate them. But hepatitis and nephritis belong to them in an especial manner, and I would suggest this remedy as likely to be of service (if any remedy can) in the case of albuminous urine. In one such case the urine was more albuminous after cupping. I imagined [the] effect arose from the mechanical violence inflicted, and recommended the cupping to be performed above and below the precise region of the kidneys. Under the use of this remedy the albumen diminished, and even ceased for a time.

These and other cases, then, induce me to think that there can be little doubt of the real efficacy of the seton in chronic inflammation. The object is to demonstrate this in some measure, and then to notice briefly farther applications of the remedy. I do not pretend to suggest any thing new, but rather to enforce what is old. The efficacy of setons, when appropriately applied in the nucha, (for they are frequently employed very uselessly,) is well known. The proper cases are inflammation and congestion. But the case to which I would particularly draw attention is that of disease of the spinal marrow, with paraplegia, or paraplegic spasm.

In this case issues are generally inserted. They appear to me far more painful, far less manageable, and far less efficacious than ample setons. They have also, I am persuaded, been generally applied below the real seat of the disease. I was consulted a few weeks ago by a gentleman from Manchester. With partial loss of power, he had loss of sensation in the lower extremities; the numbness ex-

tended to a line just above the sacrum. Issues had been applied on each side of this line. They might, with equal efficacy, have been applied to the foot! I need not say that the spinal nerves proceed, for some distance, from above directly, rather than obliquely, downwards, and that the seat of the disease is *at* or ABOVE their junction (insertion or origin) with the spinal marrow.

Bearing these two principles in mind, then, viz. that ample setons afford a more efficacious counter irritation than issues, and that they ought to be applied higher along the spinal column than has been usual, I think we have a new mode of treatment for this formidable class of diseases.

These setons should, besides, be larger than usual. They should be three-fourths of an inch in breadth, and extend through two inches in length, be inserted on the level with and above the supposed seat of the disease, (the anatomy being consulted) and be four or six in number, two or three being instituted on each side of the spinal column. Acting on this principle, I had, five days ago, the pleasure to receive the most satisfactory account of a patient affected with paraplegia, whom I had seen at Lohan, in Essex, in consultation with Mr. Gross.

I repeat, and beg to conclude by repeating, that I believe counter-irritation applied along the spine has failed, because it has been applied below the seat of the disease; and that, to be efficacious, it must be both more efficient in itself, and applied with greater regard to the anatomy of the spinal marrow and nerves. The precise spot for their application must be left to the well-informed practitioner. I need scarcely remind my reader, that the persistence or cessation of all reflex actions, will determine whether our remedies should be applied above or below the origin of the cauda equina, above or below the last dorsal vertebra.

We are great advocates for setons too. We confess we have not used them so broad nor so many at a time as our friend Dr. Hall. But perhaps he is right. The difficulty would be, in some cases, to induce patients to submit to their introduction.

We have tried setons in three or four cases of albuminous urine. They were bad cases certainly, and the effect was not encouraging.—*London Medico-Chirurgical Review, from London and Edinburgh Journal of Med. Science, No. 11.*

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*Observations on the Nature and Treatment of Various Diseases.*

By ROBERT J. GRAVES, M. D.

REMARKABLE AND UNEXPECTED RECOVERY FROM LARGE ABSCESSSES OF THE LUNGS.

Though the introduction of the stethoscope has been of the greatest utility in the investigation of pulmonary complaints, both as regards their prognosis and their treatment, it must be confessed that, in many instances, practitioners have been induced unduly to rely upon the



indications of disease which this instrument affords, and consequently have seen their prognosis fail. The following remarkable cases afford abundant proof, that patients may recover, contrary to the usual interpretation of the most significant and decisive stethoscopic symptoms, and therefore seem to merit publication, in order to warn practitioners from relying too exclusively upon physical phenomena, and too hastily concluding that pulmonary lesions, however extensive, thus indicated, must necessarily prove fatal. These cases, too, show that vast abscesses may be formed in the lungs, and yet the patient recover; and likewise, that real circumscribed abscess occurs more frequently in the pulmonary tissue than Laennec allowed, or his followers seem to believe. It is true, indeed, that where suppuration takes place in the lung, nature effects it in a manner either calculated to afford the readiest exit for the matter so formed, or best suited to promote its absorption.

This object, from the extent of the parenchymatous structure of these organs, and its relation to the air cells and minute bronchial tubes, is most easily effected, by so disposing of the purulent fluid, resulting from inflammation, that it can, on the one hand, be with facility eliminated through the bronchial tubes, or on the other absorbed in the texture of the lung itself. In other organs and other parts, a similar facility for mechanical elimination does not exist, and consequently the easiest step which nature can take is, to collect the puriform fluid, within the parietes of a circumscribed abscess, which may work its way outwards for the purposes of discharge. From this view it appears, that in other parts, circumscribed abscess is the ordinary means of evacuation provided by nature, and diffuse suppuration the exception; while in the lungs the reverse obtains, diffuse suppuration being the ordinary rule, and circumscribed abscess the exception. The rationale here exposed has been well explained by Dr. Stokes, in his admirable treatise on diseases of the lungs, but at the time he wrote, neither he nor I were aware that large abscesses occur so frequently in the lungs, or are so often recovered from, as subsequent observation has shown to occur.

CASE I.—In the year 1837, I was called to visit a boy at Rathmines, who presented the following symptoms: he had for many weeks been affected with cough, dyspnoea, and bloody expectoration, attended by fever, emaciation, and colliquative sweats; and when I saw him his pulse was extremely quick, his respiration hurried and difficult, while his whole appearance expressed danger of almost immediate dissolution.

The right side of his chest, but more particularly the superior part below the clavicle, was dull on percussion, and every time he coughed, matter could be heard gurgling in a vast cavity in the upper part of the lung; the gargouillement was so plain as not to require the application of the stethoscope, and indeed it was almost impossible for even the most zealous cultivator of science to examine the physical phenomena very closely, for every time he coughed he threw up large quantities of purulent matter, mixed with blood of a stench so

insufferable that my stomach was nauseated, and I could not remain more than a few minutes in his room, even the most distant parts of which were pervaded by this abominable fœtor. I at once pronounced the case hopeless, and advised merely palliative treatment. In a few months afterwards, I was surprised to see the same boy apparently recovered, assisting in carrying on his father's business, that of a tavern-keeper. He has since grown up and become a tolerably strong young man, healthy in every respect, except a certain degree of shortness of breath, which he feels when forced to make any considerable exertion. A manifest flattening is still evident beneath the right clavicle.

CASE II.—In the summer of 1839, Sir Philip Crampton brought me to the Shelbourne Hotel, to see a boy about twelve years of age, who had been at school in France, and had caught a cold in the preceding spring, under the effects of which he had ever since laboured. The disease had been but little attended to, and no appropriate treatment employed until emaciation had considerably advanced, and his constitution was evidently sinking under the inroad of the malady. His father was then written to, and he proceeded in haste to the school, where he found that an eminent physician had pronounced the boy's case hopeless, and had declared that he was in the last stage of phthisis. He was brought to Ireland by short stages, and though his removal was accomplished with all due care and circumspection, yet his parent was more than once in a state of well-founded apprehension that he would expire on the road. The disease in this case had been *so long in forming, had advanced so steadily*, and had attained to such a degree of intensity, that little or no hope remained of his recovery. The physical phenomena and the constitutional affection were much the same as those detailed in the preceding case, with the exception that the expectorated pus was neither so abundant nor so fœtid. In both this case and the preceding, it is to be remarked, that only one lung was affected. His parents were anxious to remove him to the country, and Sir Philip Crampton and I felt much hesitation in sanctioning this step, as the danger of his immediate dissolution was so imminent. His friends, aware of this danger, nevertheless executed their intention; and about five months afterwards I was astonished to learn that the boy had perfectly recovered, and was then engaged in frequently enjoying the diversion of hunting in the County Tipperary.

In both these young persons, the history of the disease, and its unexpected termination, prove that they were affected with chronic pneumonia, ending in the formation of vast abscesses in the upper portion of the lung, which brought both patients into a state of the greatest jeopardy, but finally yielded to the curative powers of nature.

I do not see how, in either, a physician was to distinguish them from tubercular abscess. Had the disease in either been more acute the diagnosis might have been possible; but, in both, its progress was at first insidious, occupying many months previous to the formation of the cavities, and accompanied by gradually increasing consti-



tutional symptoms and hectic fever. The mere freedom of one lung from disease does not constitute a certain means of diagnosis, for the same not unfrequently obtains in true tubercular phthisis. In such cases, it is probable, that the microscopical examination of the expectorated fluid would have thrown important light on the subject, and have revealed the true nature of the disease, but it is only lately that investigation has been directed to this promising field of inquiry, on which Dr. Watts has in this Journal made several excellent remarks.

CASE III.—Early in the spring of 1841, Dr. Brereton brought me to see, at Sandford, a young boy about fourteen or fifteen years of age, who a fortnight before had been attacked with symptoms of pleuro-pneumonia, intense pain in the side, and cough of a very harassing character; he had also expectorated considerable quantities of the characteristic sputa, tinged of a prune juice colour. The constitutional symptoms had all along been very severe, and together with the local inflammation, had not yielded to a very active and judicious treatment. For about ten days after my first visit, matters went on from bad to worse, and at the end of that time, his pulse was about 140; dyspnœa excessive; uneasiness, jactitation, and restlessness; constantly urgent cough, both night and day, so that his case appeared utterly hopeless, and his death was momentarily expected. The pneumonia occupied nearly the whole of the right lung, and rendered that side almost every where dull; and during the first periods of the disease, crepitus had been extensively present. While matters thus threatened a speedy and unfavourable termination, he was seized at night with intense difficulty of breathing, anxiety and pain in his side, and seemed to be moribund. With a sudden effort, however, he succeeded in expectorating a very large quantity of purulent matter, and immediately obtained comparative relief. A similar struggle took place on the following night, and with a similar result, and when I saw him the next morning, I found him in some respects manifestly relieved, but still labouring under great debility, considerable difficulty of breathing, and fever. On examining the right side of chest, the whole anterior portion, from immediately below the clavicle downwards, as far as the bottom of the lung, was found to be morbidly resonant on percussion; a change of a most striking nature, for these parts had been before quite dull. This side of the lung was now evidently dilated, and the stethoscope detected a loud and well-marked metallic tinkling, whenever he coughed or spoke. The detection of this phenomenon rendered it certain that a vast abscess existed in the lung, communicating certainly on the one hand with the bronchial tubes, and not improbably on the other with the pleural cavity; a view of the subject which, in my mind, rendered the case hopeless, and I pronounced it to be so. For a fortnight or longer, he had occasional returns of sudden purulent expectoration, each time, however, less in quantity, and followed by more marked relief of the constitutional symptoms, and about six weeks from the occurrence of the first expectoration of matter, his convalescence had far advanced, and he is now strong and healthy.—*Dub. Journ. Med. Science, Jan. 1842.* (To be continued.)

*Connection between abundance of food and mortality.* By M. MELIER.—In this memoir, which was read at the Academy of Medicine of Paris on the 7th of September, the author established, by numerous documents drawn from the histories of various countries, that the number of deaths always correspond to the price of food. "Wherever there's a loaf added, there's a man born," said an economist: and nothing is more true than this metaphorical expression. If we represent the variations of the general mortality and those of the price of bread at different times, by two curved lines which rise and fall with all the fluctuations of these particulars, we shall find all their curvatures exactly, and with the most perfect regularity, corresponding. The constant increase of the population of France for a certain number of years, is easily explained by the progress of agriculture, the modifications which the laws relating to corn have undergone, and especially by the introduction of potatoes. The influence of the dearness of food, however, is observed more distinctly in the year next following than in any in which it has occurred.—*London Med. Gaz., from Gaz. Med.,* September 10, 1841.

*Compound dislocation of the thumb—reduction—cure.*—John Williams, aged 18, was admitted an out-patient of the University College Hospital, under Mr. Morton, on the 17th of September, 1841, on account of a compound dislocation of the first phalanx of the thumb. The articular extremity of the first phalanx projected completely through the wound, which was situated on the ulnar side of the joint; the end of the bone was very easily reduced. The accident was caused by accidentally thrusting his hand with great violence against a wall. The bone being replaced, the end of the bone was retained by several slips of plaster neatly applied, and a small splint of pasteboard was placed underneath the whole length of the finger, so as to support the bones composing it; a bandage was then applied over the whole. To have five grains of calomel and fifteen of jalap directly: to be placed on low diet, and cold lotion to be applied to the part.

This man presented himself at the visit of to-day; but as the parts looked well, the plasters and splints were allowed to remain, while the bandage was removed.

30. Doing very well; wound is almost healed; bandage removed. An abscess having formed upon the under surface of the ball of the thumb, it was opened, and its contents discharged.

Oct. 4. Wound perfectly healed. To use passive motion of the joint.

20. The motions of the joint are preserved. Discharged, not quite cured.—*London Lancet, January 1, 1842.*

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Reynell Coates, M. D., Acting Editor.

J. B. Biddle, M. D., and W. W. Gerhard, M. D., Co-editors.

J. B. Biddle, M. D., Proprietor.